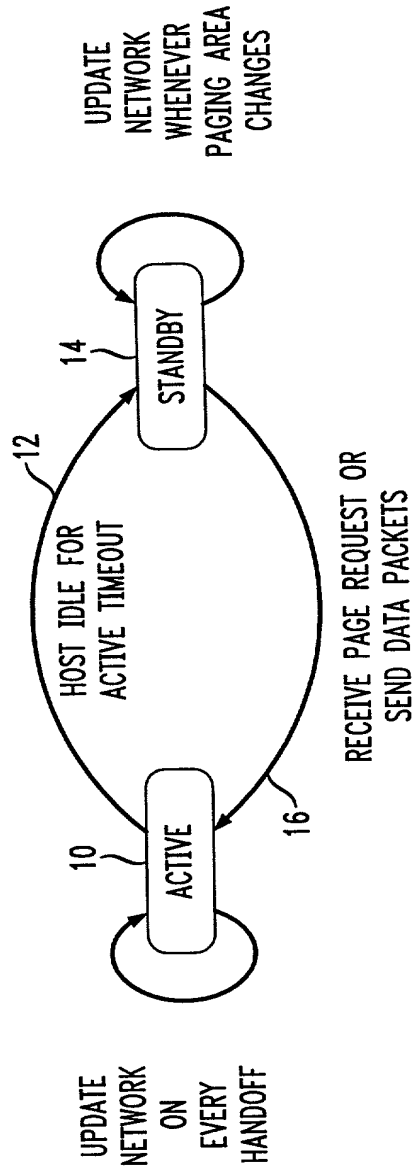
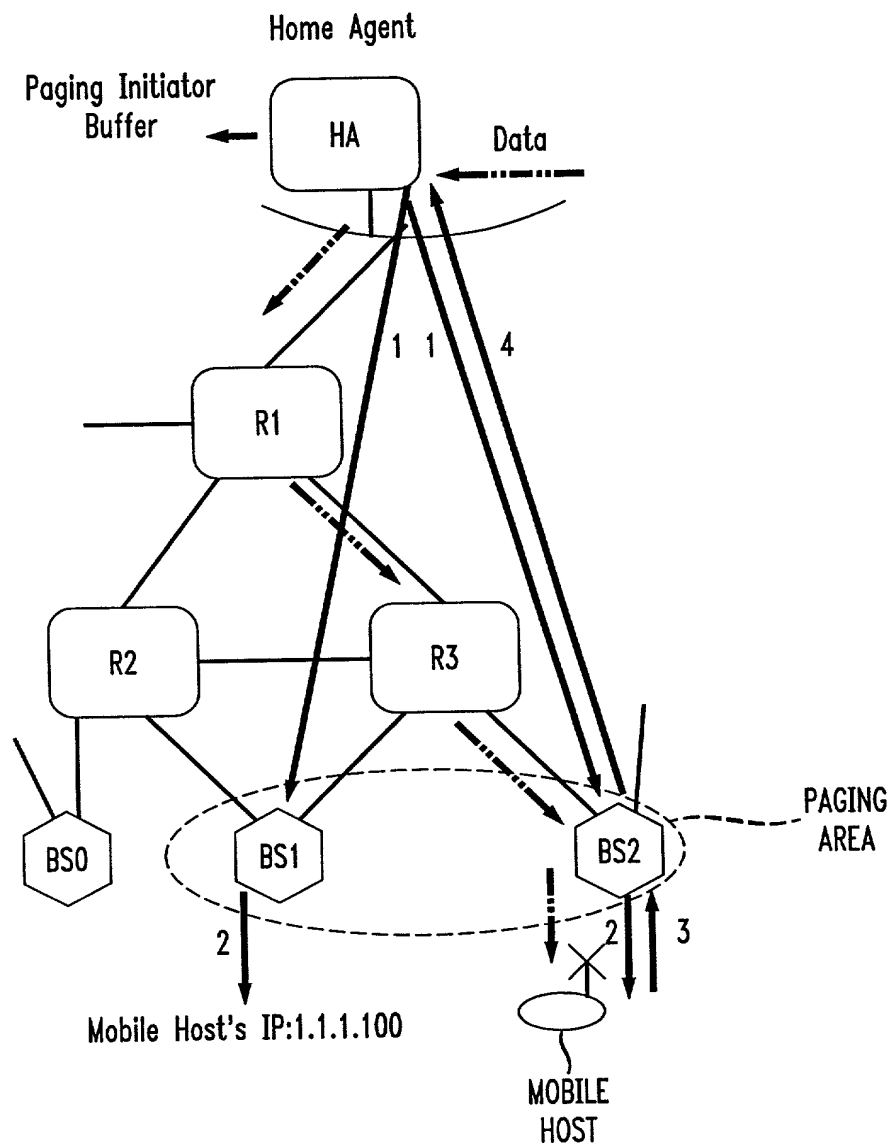


FIG. 1



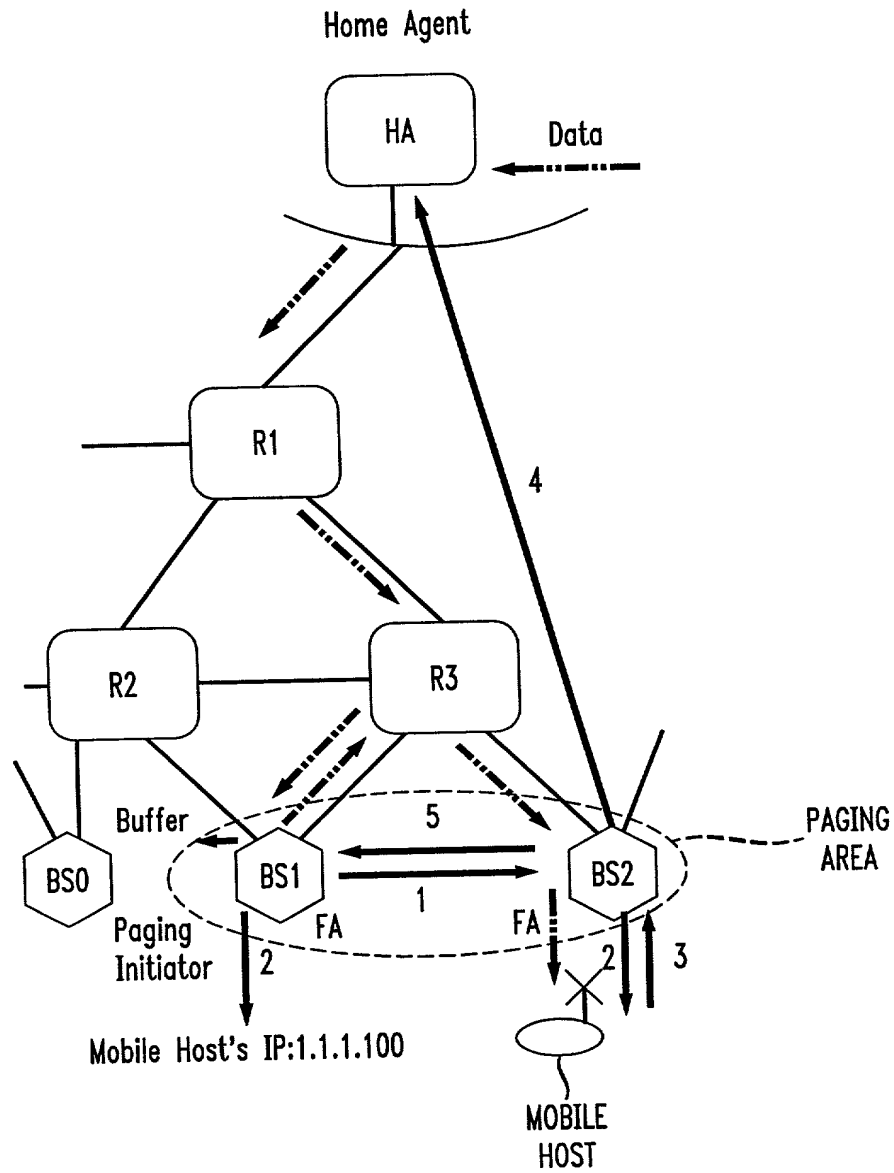
2/20

FIG. 2



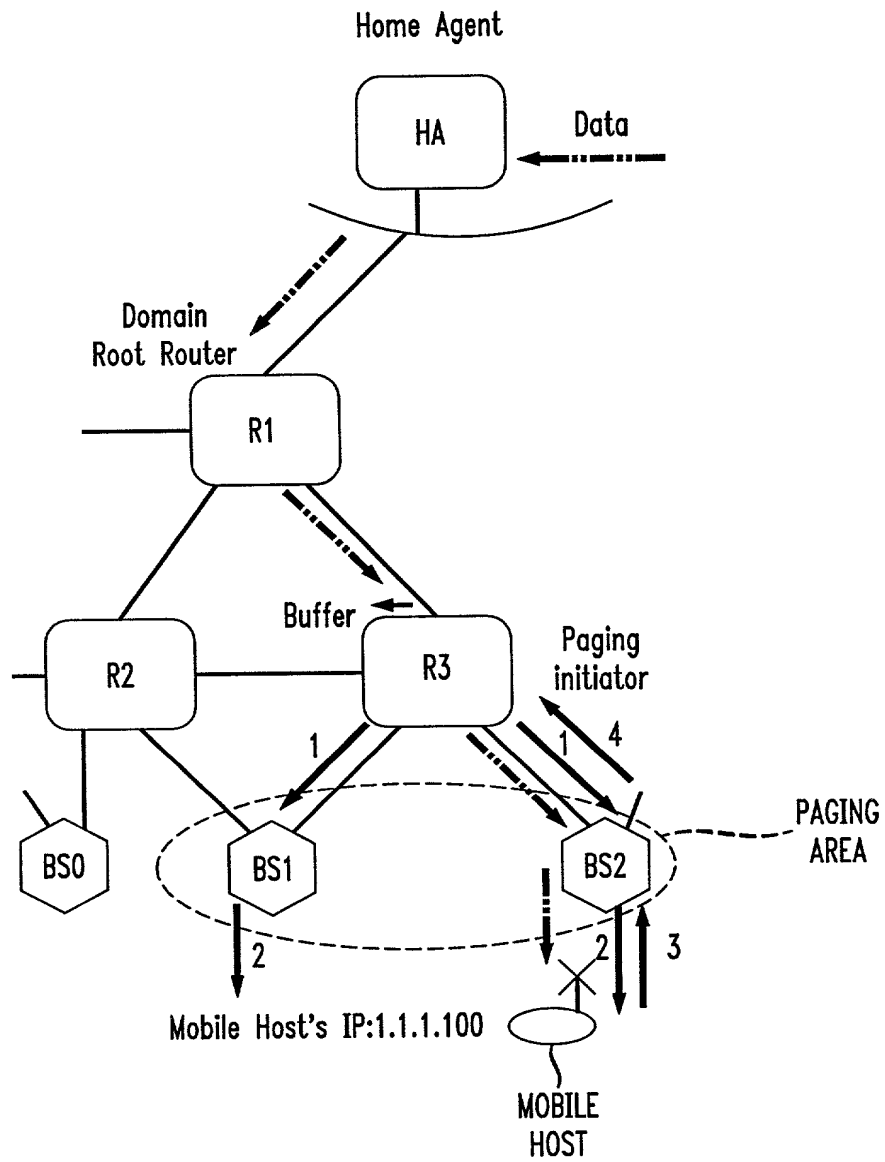
3/20

FIG. 3



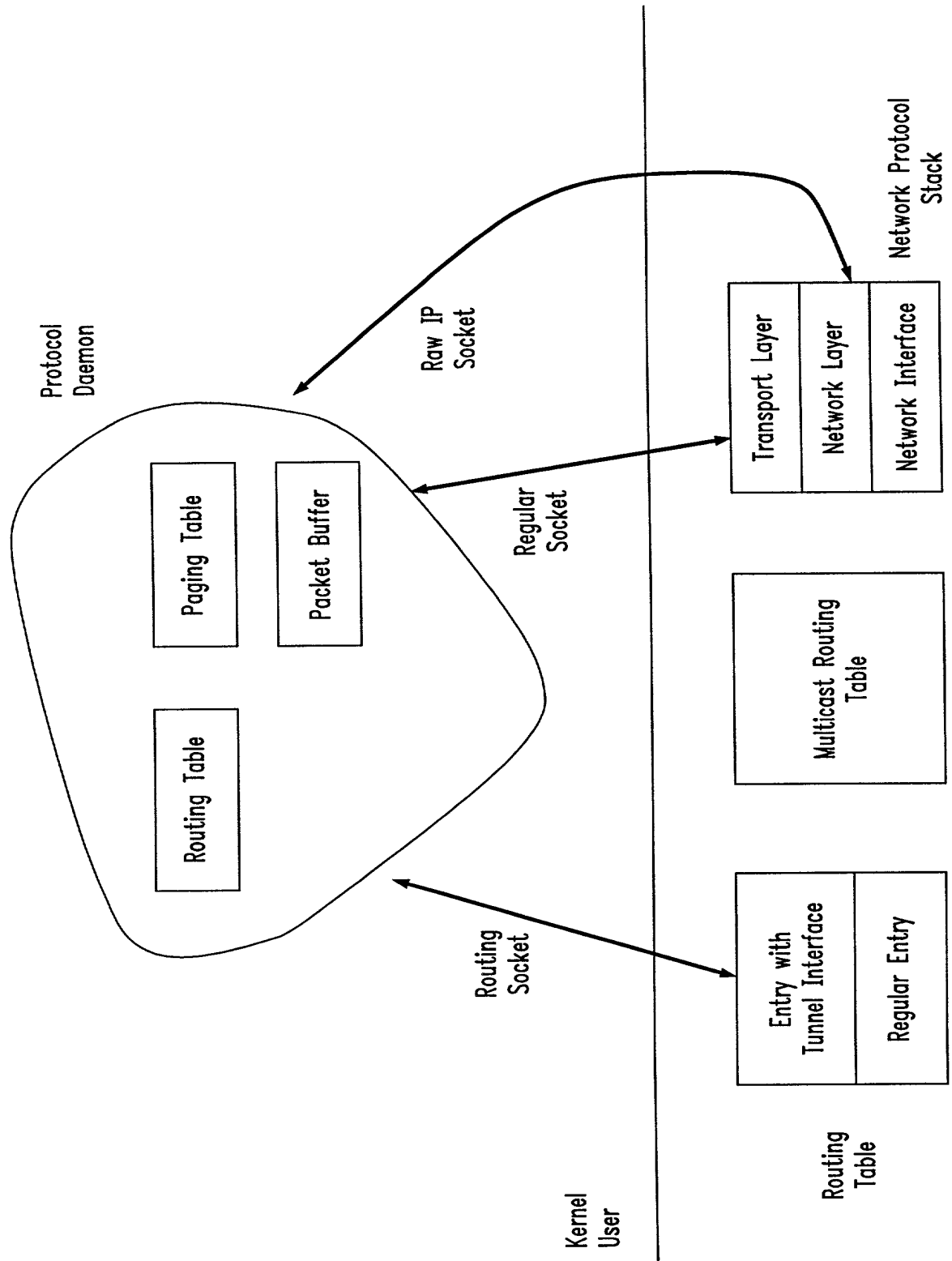
4/20

FIG. 4



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FIG. 5



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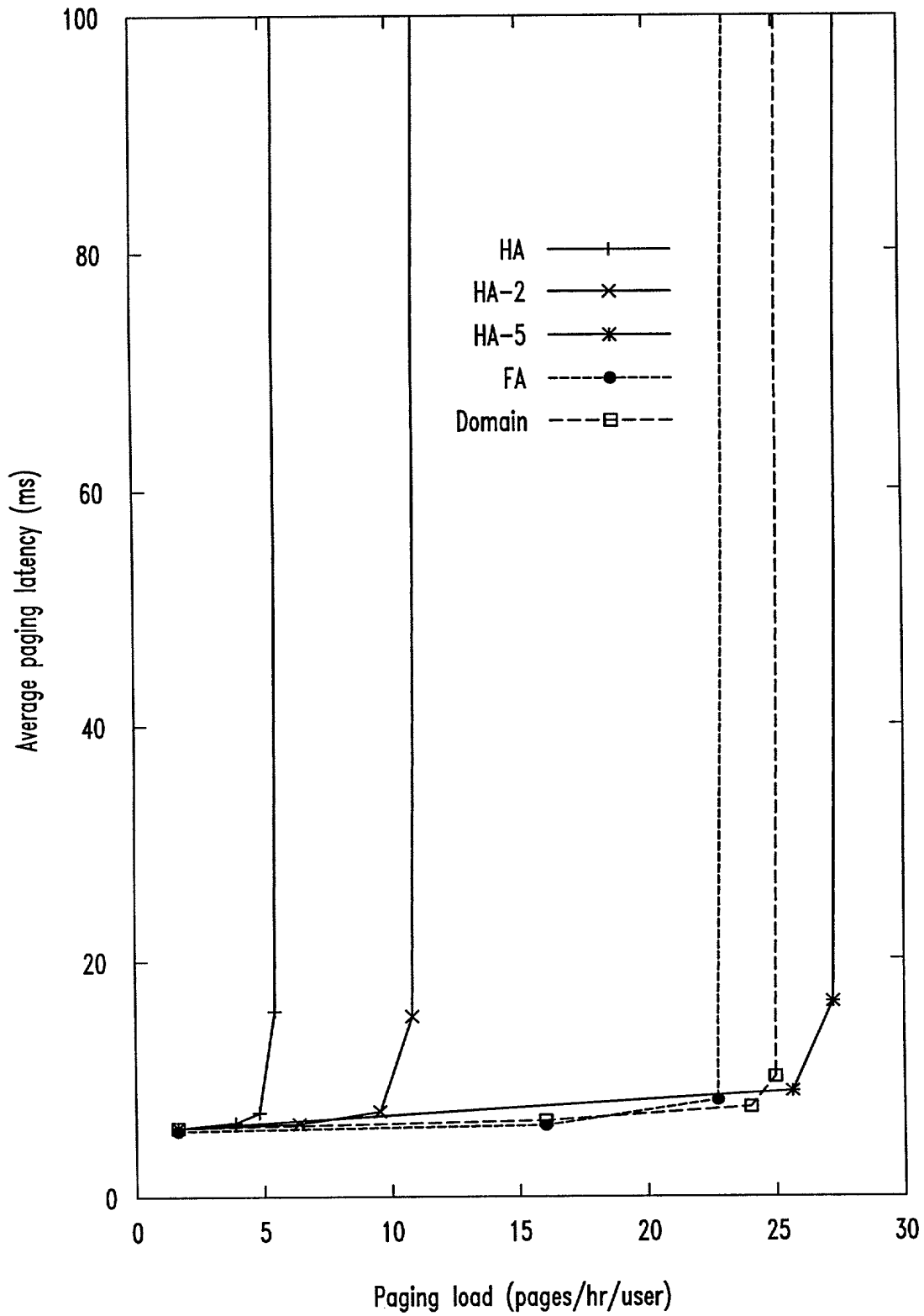
FIG. 6

TABLE I
PAGING PROCESSING TIMES IN MILLISECONDS

Router initiated (HA)	Fixed (found)	Fixed (not)	Last-loc. (found)	Last-loc. (not)	Hier. (found)	Hier. (not)
init_page_request (router)	0.173	0.173	0.323	0.316	0.196	0.203
retry_page_request (router)	-	-	-	0.157	-	0.155
recv_init_page_request (bs)	0.080	0.080	0.082	0.068	0.079	0.066
recv_page_response (bs)	0.378	0.378	0.331	0.317	0.334	0.316
recv_page_response (router)	0.279	0.279	0.190	0.193	0.204	0.215
Base station initiated (FA)						
init_page_request (bs)	0.197	0.199	0.183	0.189	0.197	0.213
retry_page_request (bs)	-	-	-	0.117	-	0.118
recv_init_page_request (bs)	0.106	0.113	-	0.114	0.106	0.114
recv_page_response (bs)	0.237	0.233	0.251	0.234	0.249	0.232
recv_page_response (router)	-	0.429	-	0.413	-	0.428

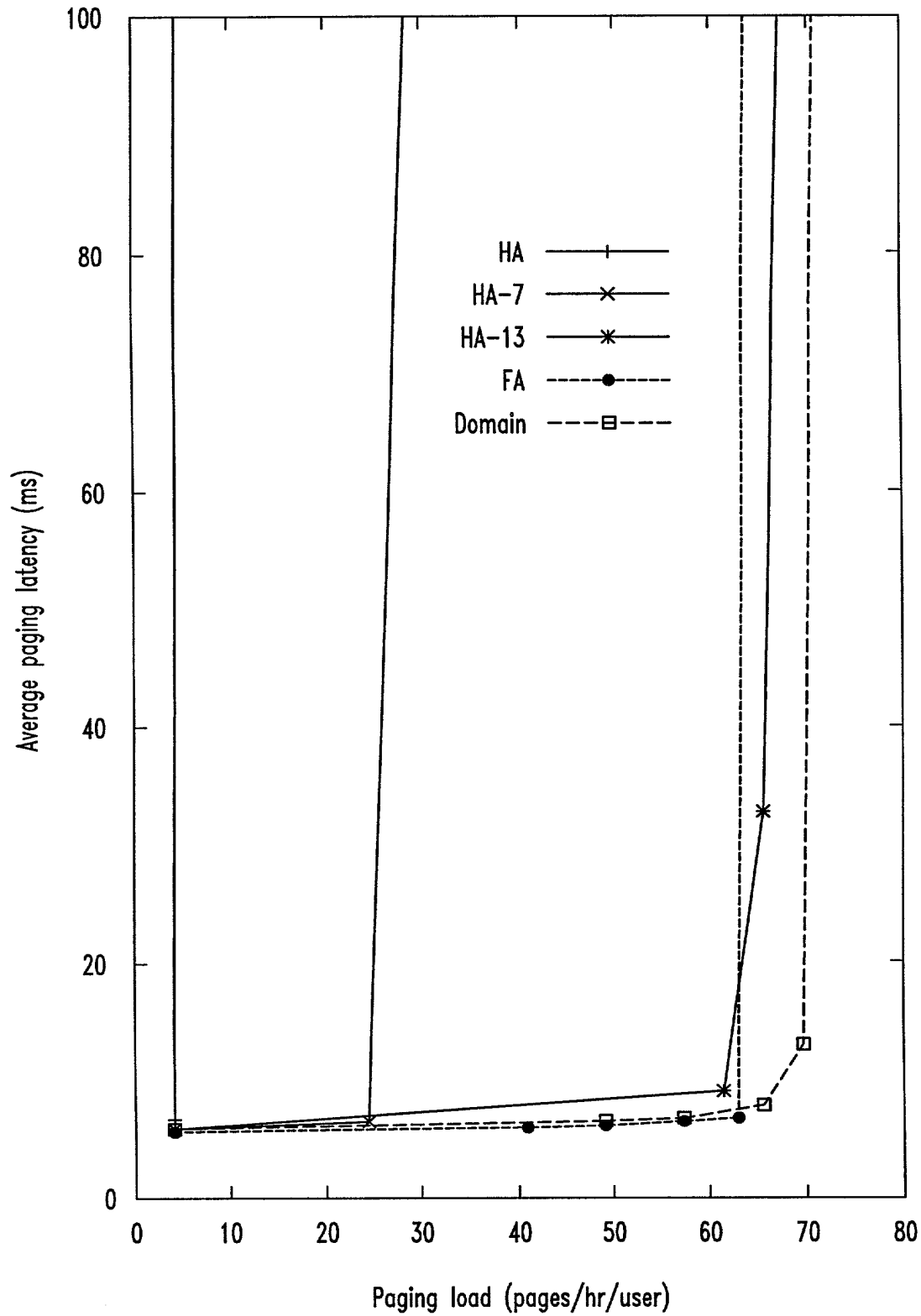
7/20

FIG. 7A



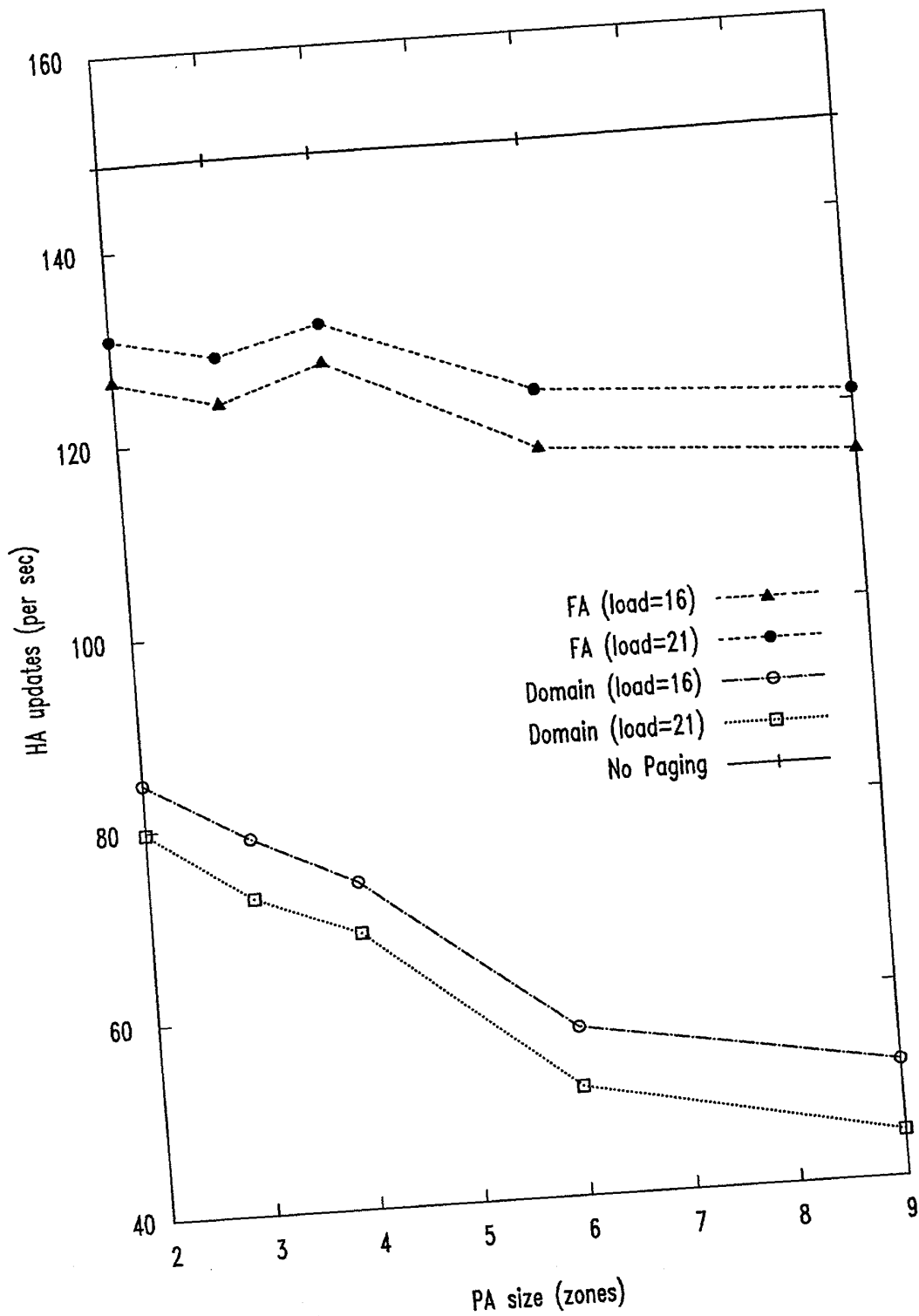
8/20

FIG. 7B

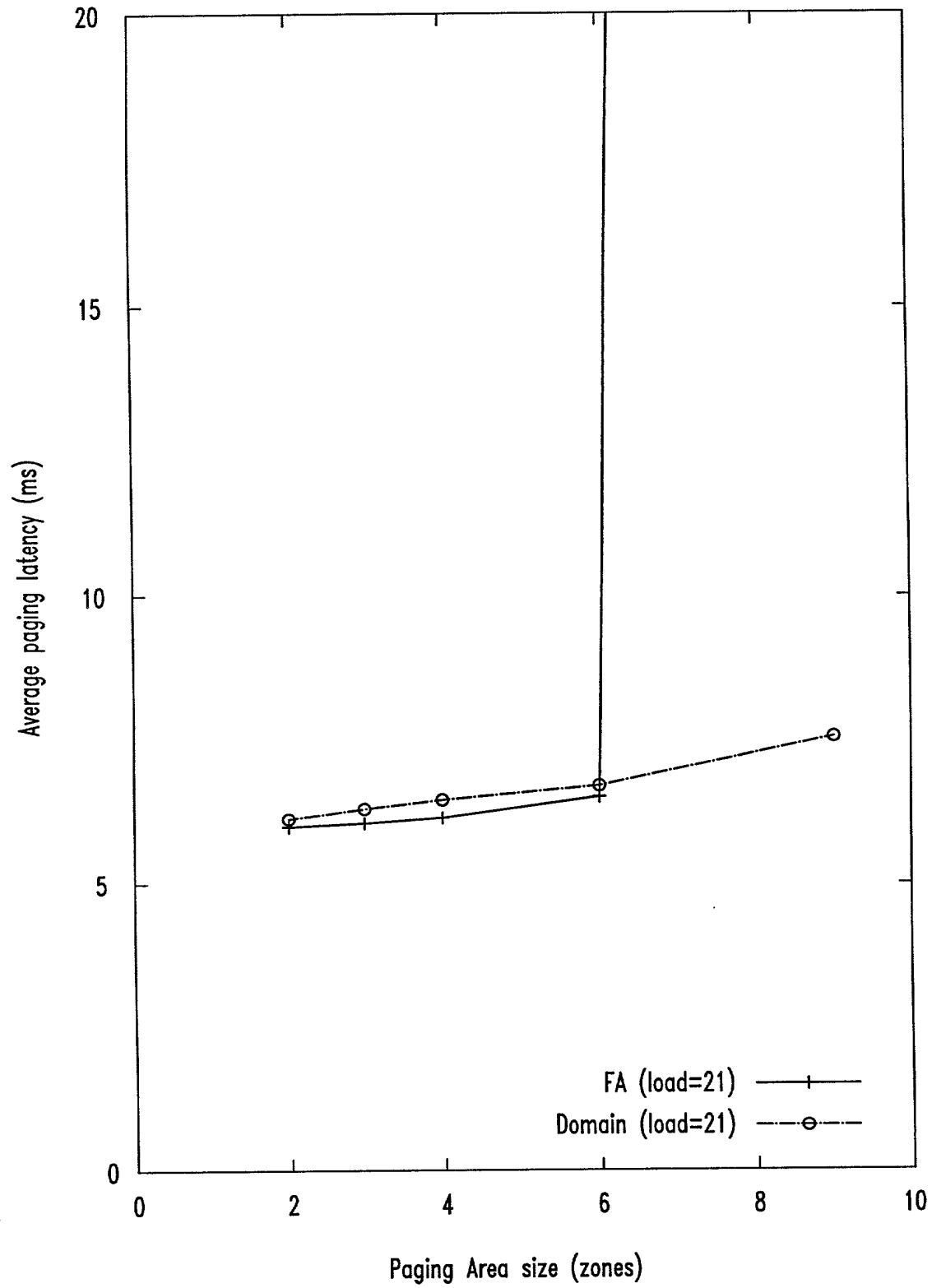


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FIG. 8A

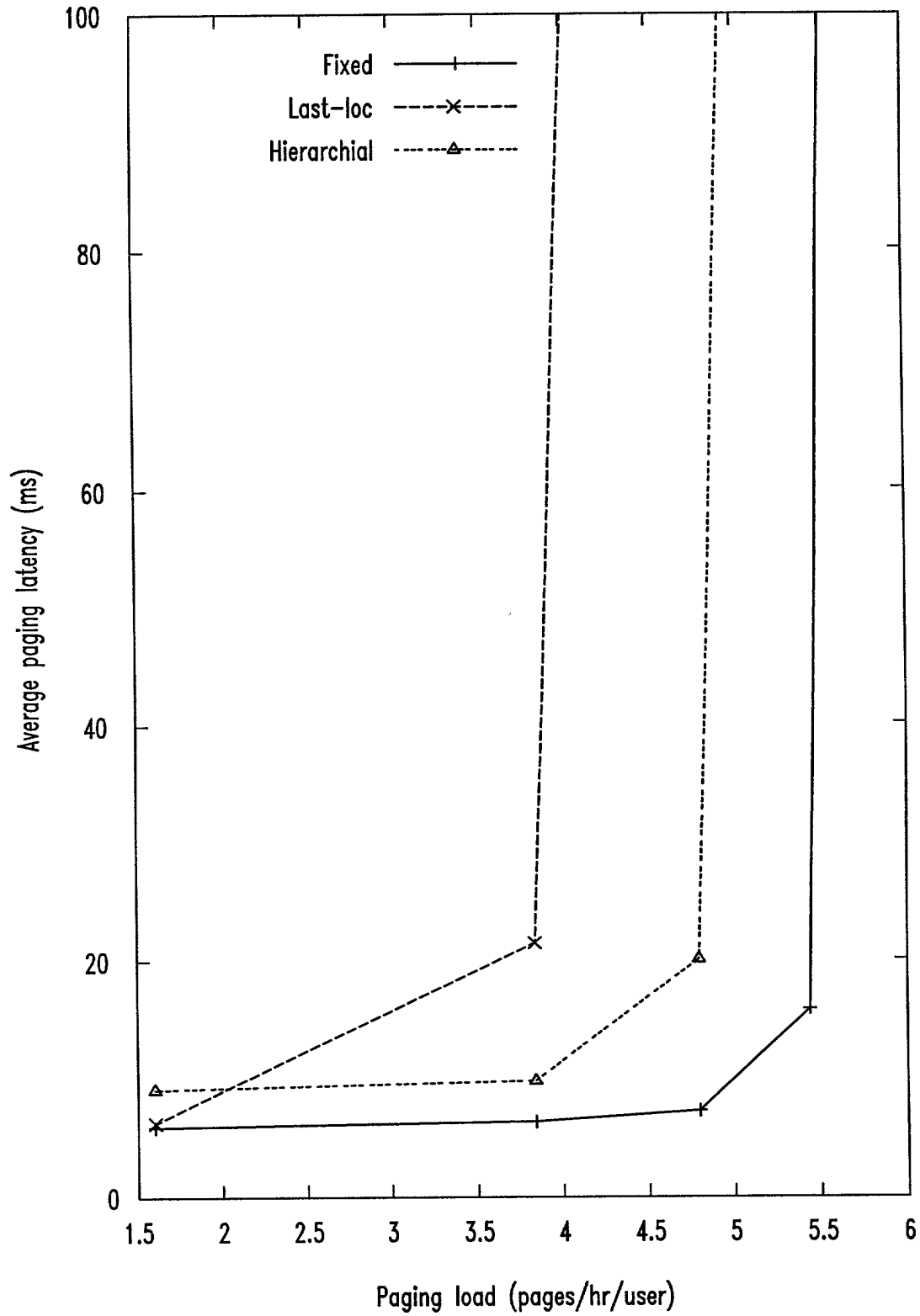


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FIG. 8B

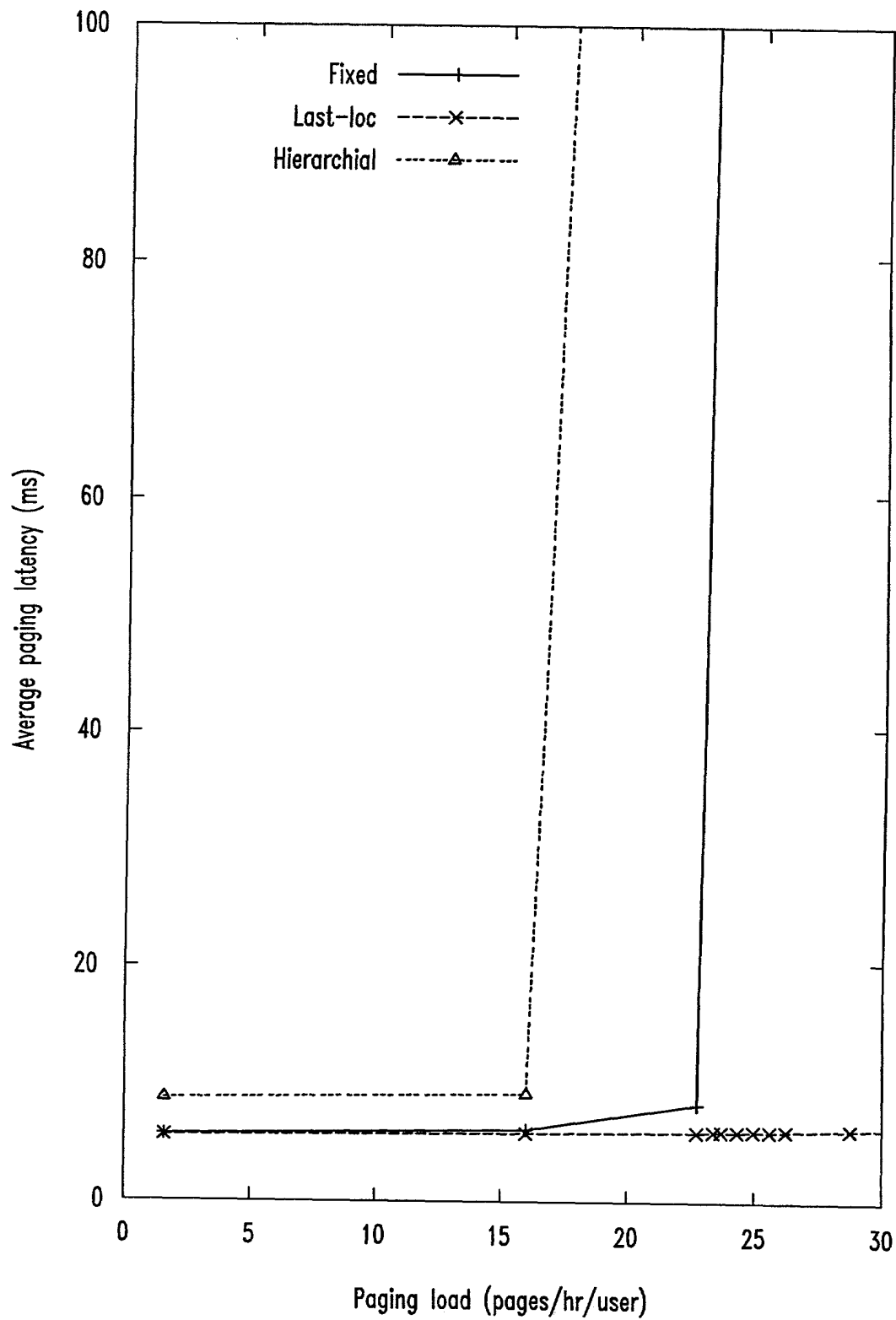
11/20

FIG. 9A



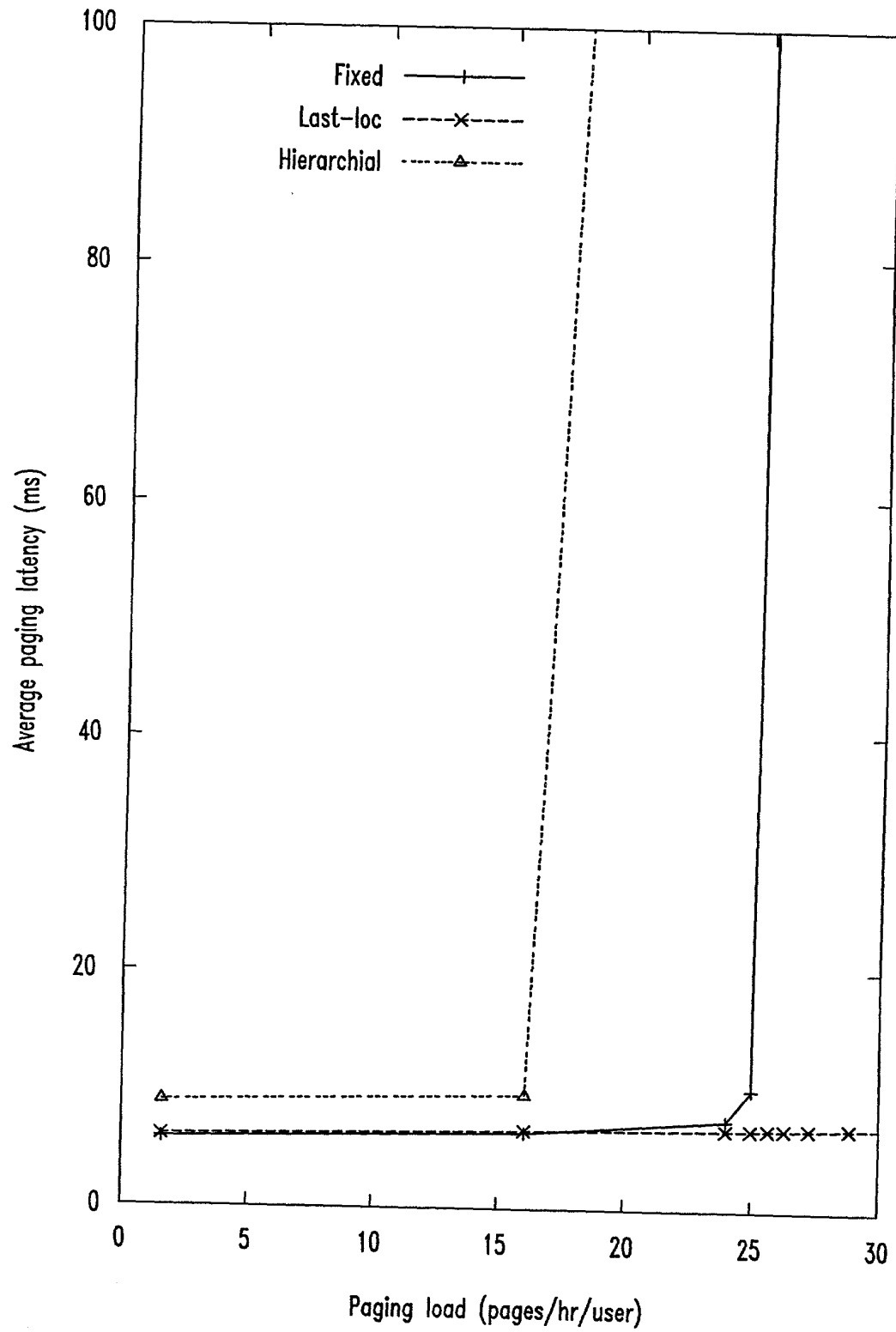
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FIG. 9B



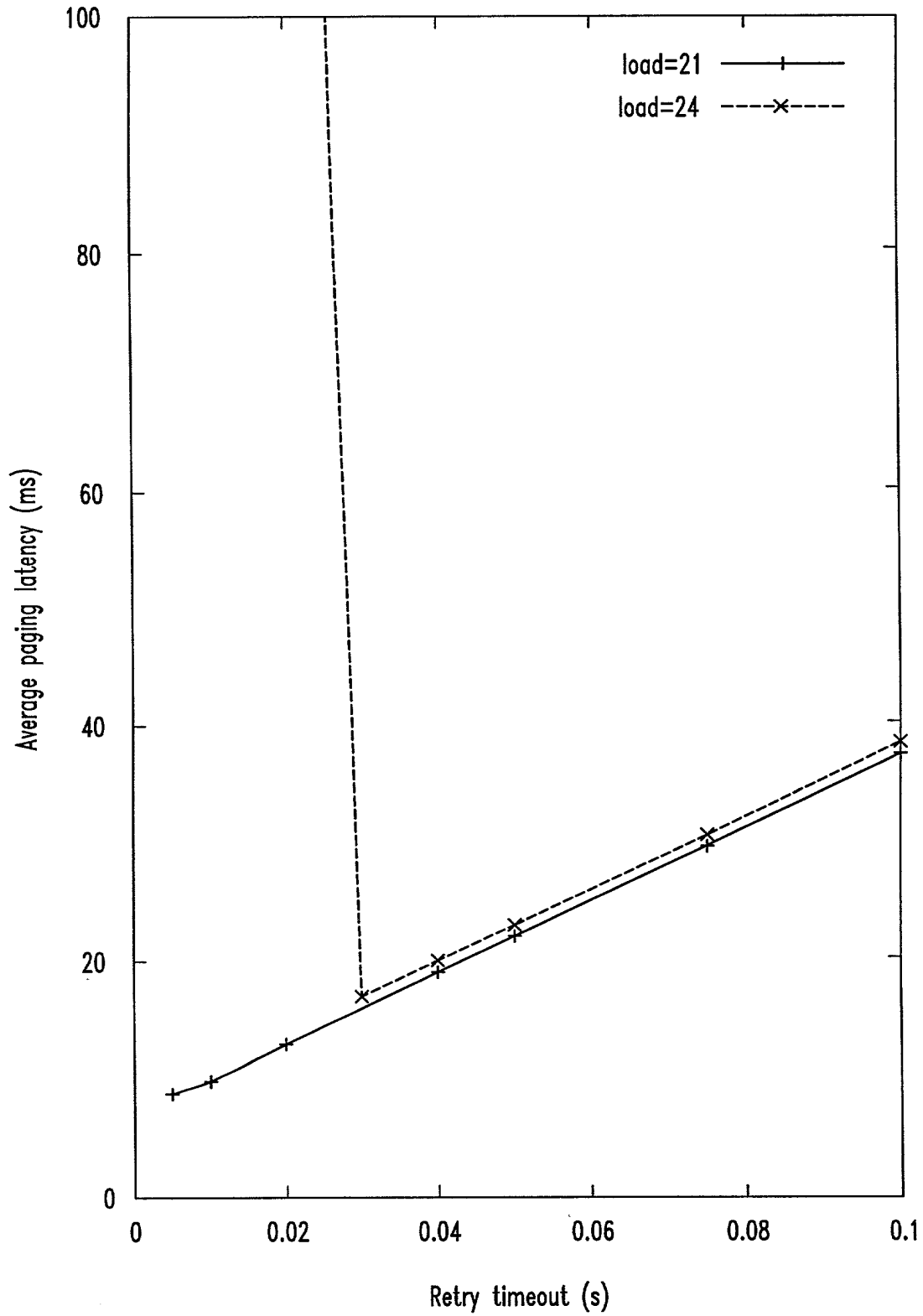
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FIG. 9C



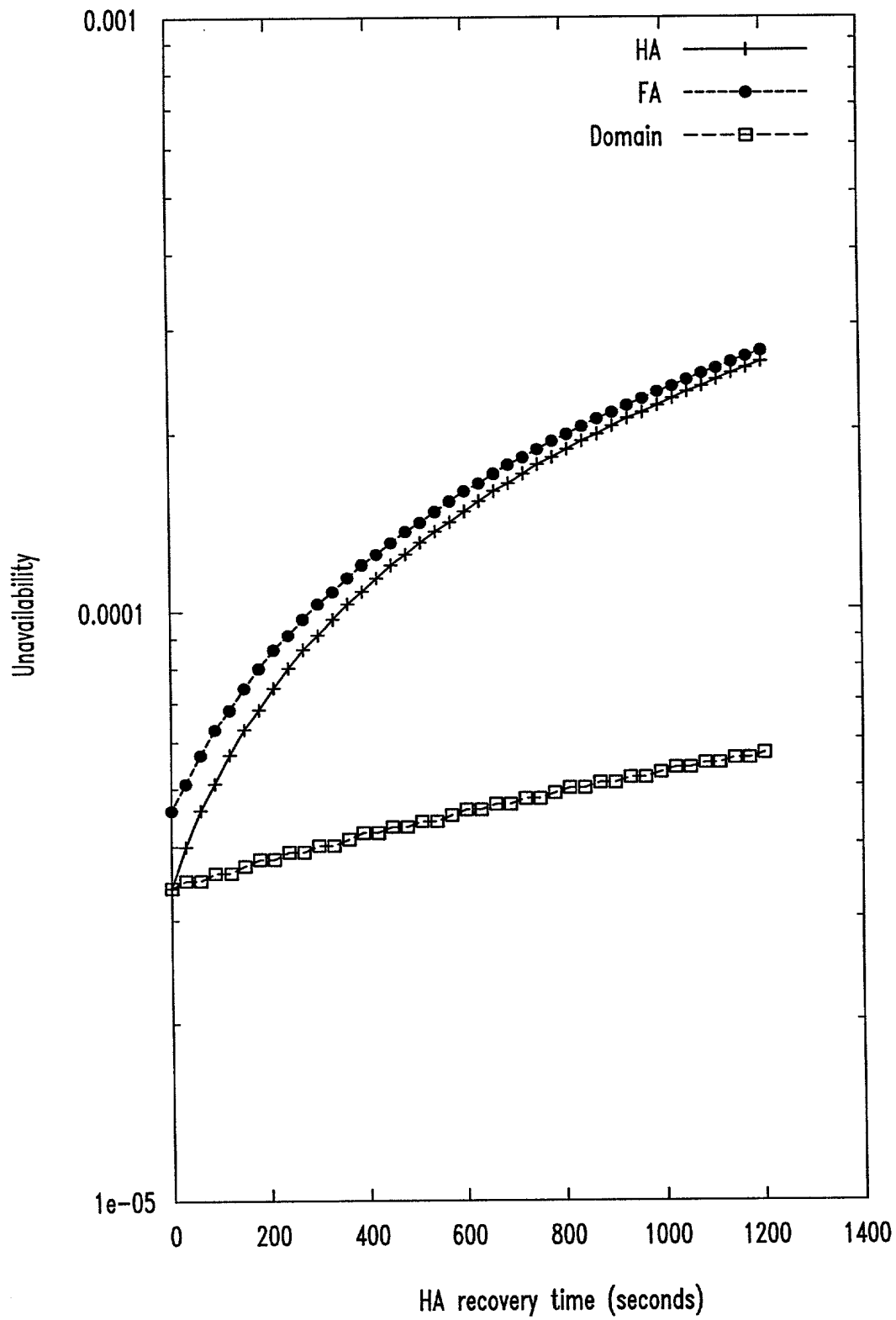
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FIG. 9D



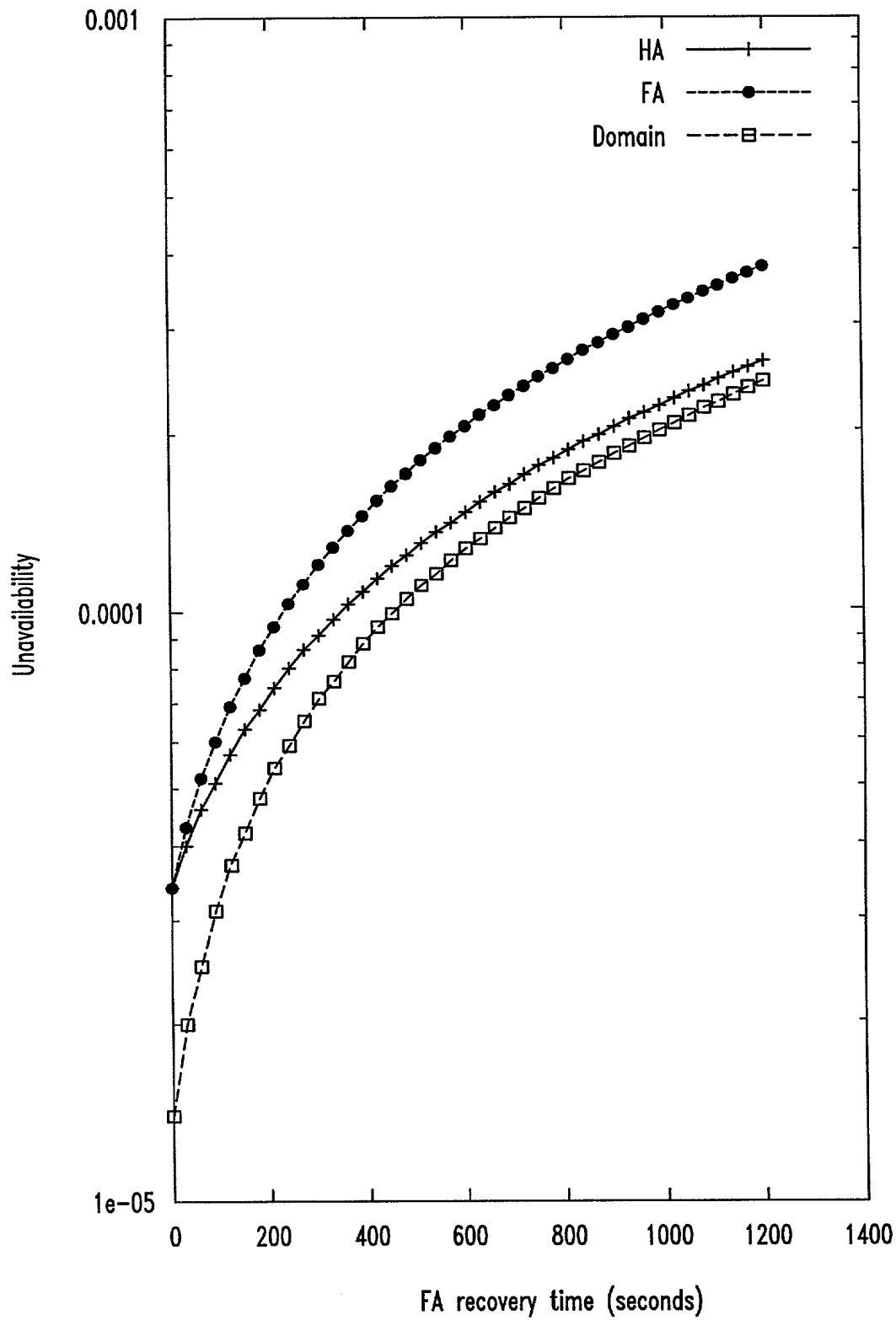
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FIG. 10A



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FIG. 10B



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FIG. 11

ROUTER PROCESSING FOR A GIVEN MOBILE HOST

Routing entry	Paging entry	Host state	Router action
Y	Y/N	Active	Regular IP forwarding
N	Y	Standby	Paging processing
N	N	Null	Drop if no default route

FIG. 12

1. Receive protocol message from neighbor with
(MH IP ADDRESS, MGA) on Port A
2. If I am the Domain Root Router
3. Set entry to (MH IP ADDRESS → MGA, Port A)
4. else
5. Set entry to (MH IP ADDRESS → MGA, Port A)
6. Forward to upstream neighbor along default route
7. endif

Paging update processing in base station/router

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FIG. 13

1. IP packet for MH arrives at node with entry (MH IP address \rightarrow MGA, Port A)
2. if (packet arrives from default route port or I am Domaine root Router)
3. if ((no refresh on Port A) /* Failure */
4. or (page queue $< \beta$)/lightly loaded?*/
5. or (I am a base station)) /* Initiate Paging */
6. buffer packet and send page to MGA
7. increase retry counter and set retry timer
8. else /* Push paging initiation downstream */
9. route the packet through Port A
10. endif
11. else
12. forward packet along default route to DRR
13. endif

Paging initiation in base station/router

FIG. 14

1. Receive protocol message with from neighbor (MH IP ADDRESS, MGA) on Port A
2. If I am the paging initiator
3. Set entry to (MH IP ADDRESS \rightarrow Port A)
4. Forward buffered packets
5. else
6. Set entry to (MH IP ADDRESS \rightarrow Port A)
7. Forward response hop-by-hop towards initiator
8. endif

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FIG. 15A

FIG. 15A

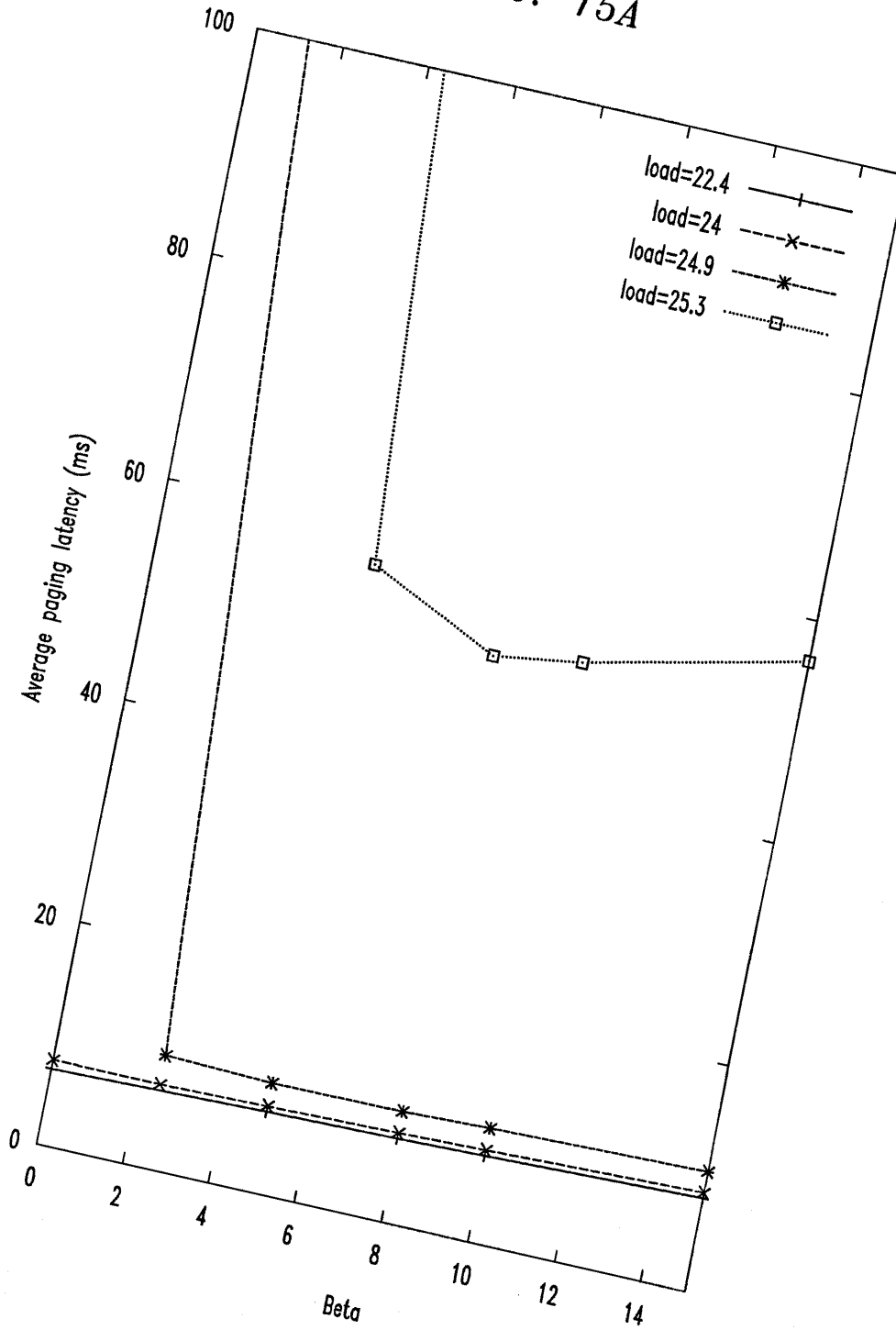


FIG. 15B

